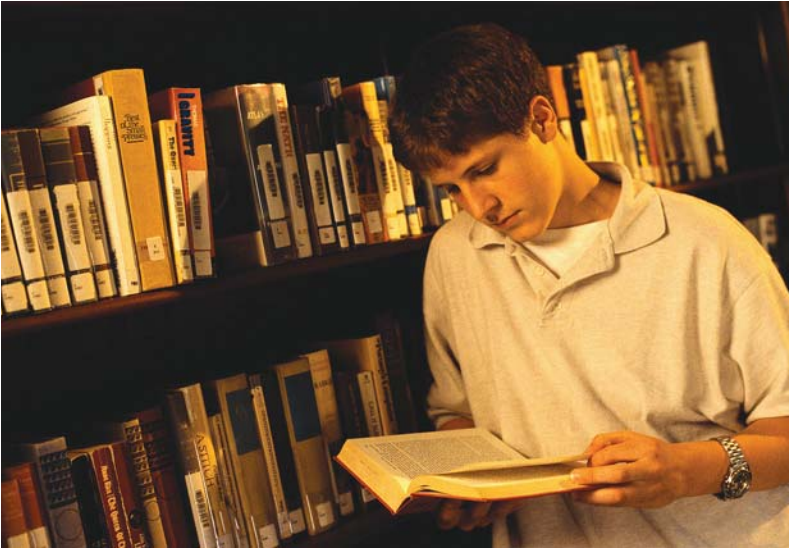## GOAL TWO

Support North Dakota University System's (NDUS) infrastructure needs.

STRATEGIES

- Offer reliable, cost-effective and appropriate North Dakota Univeristy System network services.

- Provide middleware tools and data to help people more easily use networked resources and services with security and privacy.

- Enable libraries to provide easy access to licensed electronic information.

- Provide information technology architecture leadership.

"Technology must obey the principal of least astonishment." In other words, computer systems should work the way people expect them to work. The glue that holds these systems together is called an infrastructure. From years of experience we learned that "the systems of today are the components of tomorrow." What that means is the very complicated stand-alone e-mail package of yesteryear has been integrated with calendaring and web-browsing to provide what the industry calls a "collaboration toolset," and it is all connected together seamlessly by a wide area network such as STAGEnet. Users of these services expect fast, efficient and intuitive ways to communicate with the click of a button.

Because of security, privacy and cost issues, we cannot allow unfettered use of our services. People need IDs, passwords, and authorization to use specific services. The software that manages this aspect of the infrastructure is called "middleware." Having software to control access to services is not enough. There must be policies to guide the implementation of the middleware – essentially, the rules that we operate by in allowing access and encouraging good behavior. These policies must be developed and updated with the involvement of the communities of people who use the services, and keeping in mind the purpose of the facilities, and the inherent security required to protect the rights of all parties involved.

Infrastructure needs for North Dakotans extend into libraries, where in the past people traveled to a facility and checked out a book. Information is no longer just found in books, as subscriptions to very large, remote databases and publications are becoming affordable due to inter-library cooperation that allows bulk buying. These kinds of new

"North Dakota is one of the very few states where all higher education institutions share an IT service infrastructure. It has proven to be a very successful model because it provides a significant level of computing and networking capabilities and support for students, faculty and staff, while holding down costs."

facilities bring the largest information collections within reach of the most remote of North Dakota centers.

Finally, information technology architecture leadership is a key in supporting NDUS infrastructure needs. This leadership not only develops an infrastructure appropriate to higher education's needs, it allows us to work with state government and the K-12 sector to develop statewide standards for the implementation and use of technology. In the end, this means the services work the way people expect – fast, efficient and easy.